International Journal of Agriculture Sciences
ISSN: 0975-3710&E-ISSN: 0975-9107, Volume 10, Issue 6, 2018, pp.-5581-5583.
Available online at http://www.bioinfopublication.org/jouarchive.php?opt=&jouid=BPJ0000217

Research Article

THE WEED DIVERSITY ON TOMATO (*Lycopersicum esculentum* Mill) CROP IN MAJALENGKA REGENCY, WEST JAVA PROVINCE, INDONESIA

SUMEKAR YAYAN*

Department Agronomy, Faculty of Agriculture, Universitas Padjadjaran, Sumedang, 45363, Indonesia
*Corresponding Author: Email-yayan.sumekar@gmail.com

Received: March 23, 2018; Revised: March 27, 2018; Accepted: March 28, 2018; Published: March 30, 2018

Abstract- The Research aims to know the weed diversity on tomato crop in Majalengka Regency, West Java Province. It was conducted in November 2016 as of 2017. It uses the descriptive research method through survey method. After the required sample-plot number is obtained, then carried out vegetation analysis (weed survey). Each of vegetation analysis is determined: weed species, weed density, weed frequency, weed dominance, Summed Dominance Ratio, community coefficient, weed coverage percentage and dry weed weight. The questionnaires are given to farmers to know the history of tomato and carrot, i.e. used plant varieties, used plant pattern, used fertilizer type, weed controlling technique and plant spacing.
The result indicates that weed species contained in tomato crop in Majalengka Regency were 21 species. There are 14 broad-leaved weed species, 6 grass species and 1 nut grass, dominant weed species found in the tomato crop in Majalengka Regency are 8 species. 5 broad-leaved weed species are recorded, *i.e., G. parviflora, D. villosa, O. trifolia, A. conyzoides and A. vulgaris*, 2 grass species *i.e., E. indica and C. dactylon*, 1 nut grass species *i.e., Cyperus rotundus*.

Keywords- Weed, Tomato.

Citation: Sumekar Yayan (2018) The Weed Diversity on Tomato (*Lycopersicum esculentum* Mill) Crop in Majalengka Regency, West Java Province, Indonesia. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 10, Issue 6, pp.-5581-5583.

Introduction

The effort to support tomato crop production development and enhancement to meet the national demand has still faced more obstacles, among others are lack of high quality seed stock production cost increment caused by excessive pesticide and fertilizer application, and organism disturbance included weed which can give rise to yields decrease till to thwart farming yields [1].

Data of Central Bureau of Statistic [2] shows the average increase of harvested area, tomato production and productivity from 2009 until 2013 are consecutively 2,452%, 3,98% and 2,8%. Based on such average growth of tomato harvested area as of 2013 still under standard that is, 2,452%. Consumer demand against tomato hasn't worriedly been able to be equalized by tomato production per year which is still low.

One of factors effecting the decrease of tomato yields both quality and quantity is the weed existence in tomato crop cultivation area. Weed as plant-disturbing organism having the interaction with the plant through the competition to get the growth factor which is the limited availability like light, nutrient, and water. The weed competition with plant depends on rainfall, cultivar, soil condition, weed density, plant age, weed growth, along with plant age when weed begins to compete.

The success in weed controlling must be based with adequate and good knowledge from such a biologically weed nature, for example by conducting identification, searching in the literature about such weed references, then, asking the experts or weed expert. The three ways are the first step to determine the way of accurate controlling [3]. The applied weed controlling, cultivated plant type and area topography will decide the diversity and weed dominance which is being in an area.

On the basis of such description is to be necessarily carried out the research about the weed diversity on tomato plant (*Lycopersicum esculentum* Mill) in Majalengka Regency.

Research Method

The research is carried out in farmer-owned horticulture crop area in the region of Majalengka Regency. Research location for tomato planting is in 4 districts, i.e. Argapura District, Banjaran District, Talaga District and Cikijing District. Experiment location is any altitudes, soil type, agro-climate, and on the previously different cultivation. The experiment was conducted in November 2016 as of 2017. The used materials in this experiment are soil map required from each villages, West Java Agro-climate map required from BMKG Majalengka Regency, and experiment material questionnaire required from farmers or local instructor to ease observation. Whereas tools used in this research are squared meters (0,25 m x 0,25 m), scissor, hoe, meter, raffia string, plastic bag, electric scale, and drying oven.

The research uses descriptive research method through survey method. On each district will be selected randomly per tomato plant area as distributed sample in any different altitude condition, however with the age of each plant is not much different, so to get required sample-plot number, firstly determined minimum plot area by making sample-plot curve.

After required sample-plot number is obtained, then can be undertaken weed vegetation analysis diagonally for each of tomato planting area with squared method with its size of 0,25 m x 0,25 m, meanwhile, the questionnaire made to know many things related to its history or background along tomato cultivation practice in survey area.